

A SILKY SECRET

For hundreds of years, the Chinese kept the secrets of silk-making to themselves. Eventually, Europeans discovered how it was done and smuggled this knowledge out of the country.

1 Silk thread comes from the cocoon of a caterpillar which feeds on mulberry leaves.



2 Baby silkworms feed on mulberry leaves until they've stored enough fat to build cocoons. They make their silky cocoons from a jellylike substance in their silk glands.



3 After about a week, workers steam or bake the cocoons to kill the worms inside. The cocoons are then rinsed in hot water to loosen the tightly woven strands of silk thread that make up the cocoon. The strands are unwound onto a spool. Each cocoon is made



up of a thread about half a mile long. About six of these twisted together make one thread strong enough for spinning.

It takes 40,000 silkworms to produce just twelve pounds of silk.



A PRINTING WAS invented during the Tang dynasty. An artisan carved away the surface of a wooden block to create a character (a symbol for a word) of the Chinese language and then applied ink to this surface. The printer stamped the inked surface on paper. Later, the Chinese went a step further, learning how to make movable type in a wooden frame.

Y THE CHINESE invented the wheelbarrow almost two thousand years ago. They called their invention the "wooden ox" or "gliding horse." A worker could push it or pull it. Almost 1,300 years passed before Europeans learned of this labor-saving device and copied it.



Papermaking

In 105 A.D. a Chinese civil servant named Cai Lun discovered how to make paper, although archaeological discoveries show that craftspeople may have

discovered it two centuries earlier. Along with the printing press, this invention made possible rapid changes in communications. Here's how paper was first made.

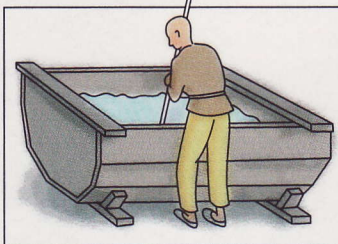
1 Silk rags, mulberry bark, bamboo, and hemp were mixed together in a large vat and soaked in water to soften them.



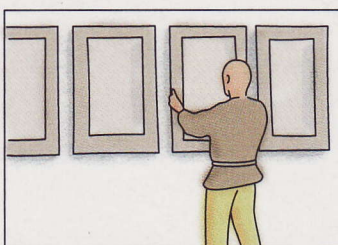
3 A fine screen was dipped into the pulp to gather up a thin film of fibers. The screen was pressed to remove the water.



2 The mixture was boiled, mashed, and pounded to form pulp, a soft, wet mass of material.



4 The screen with the sheet of paper on it was left to dry on a heated wall. When dry, the paper was peeled off the screen.



Which Chinese invention has had the greatest impact on your life?

